EDTA Cell Detachment Solution (0.02%, Sterile)

E1509620

Storage Room temperature.
Shipping Regular transportation.

Introduction

EDTA Cell Detachment Solution (0.02%) is formulated with PBS and EDTA (Ethylenediaminetetraacetic acid). It is subjected to sterile treatment and does not contain trypsin. Its mechanism of action in cell detachment is mainly based on chelation: by selectively binding divalent cations (e.g., Ca^{2+}, Mg^{2+}) at intercellular and cell-matrix junctions, it disrupts the stability of the cell adhesion system. This solution causes minimal damage to cells and can effectively detach adherent cells from the surface of culture flasks or dishes to achieve cell separation. For research use only. Not intended for clinical diagnosis or other purposes.

Features:

1. Mild in action.
2. Causes minimal damage and disruption to cells without affecting their biological characteristics, making it an excellent method for detaching tumor cells.
3. Can perform cell detachment in the presence of serum. Digested cells can be used for subculture, and also for experiments such as nuclear and cytoplasmic protein extraction, Western Blot, and Co-Immunoprecipitation (Co-IP). Under room temperature, most adherent cells can be detached within 3-10 minutes.

Materials to Be Prepared by Users

PBS, Culture medium, Inverted microscope, Centrifuge.

Operating Procedures (For Reference Only)

Detachment of Adherent Cells

1. Aspirate the culture medium and wash the cells once with sterile PBS or culture medium.
2. Add a small volume of EDTA Cell Detachment Solution (0.02%), just enough to cover the cells (generally, add 10 times the effective volume of the cells).
3. Incubate at room temperature for 2-10 minutes; incubation at 37℃ will accelerate the detachment reaction. Continue the process until the cells are completely detached. Note that the digestion time varies for different cell types. Alternatively, observe the cells under a microscope: once the cells shrink significantly, or the cell morphology at the bottom of the culture vessel changes obviously by visual inspection, or the cells can be just blown off by pipetting, aspirate the detachment solution immediately.
4. Add cell culture medium or 5 volumes of PBS buffer to terminate the reaction. If insuff-

icient detachment is observed, add this solution again for re-digestion.

5. Centrifuge at 1000-2000×g for 3-5 minutes to pellet the cells. Discard the supernatant, remove as much of the cell detachment solution as possible, and resuspend the cells in complete medium containing serum for subsequent experiments.

Precautions

1. Minimize the number of repeated freeze-thaw cycles to avoid inactivation of the reagent.
2. Use the reagent as soon as possible after opening to prevent adverse effects on subsequent experimental results.
3. During the use of the cell detachment solution, take special care to avoid bacterial contamination of the solution.
4. Do not prolong the cell digestion time excessively, otherwise the cell growth status will be poor after plating.
5. The reaction rate at 37℃ is 6-8 times faster than that at 4℃, but the cell mortality rate will increase accordingly.
6. For your safety and health, wear a lab coat and disposable gloves during operation.